

WHAT IS CLAIMED IS:

1. A razor system comprising:
a razor cartridge including at least one blade;
a handle attached to the razor cartridge; and
a non-piezoelectric sensor coupled to the razor system for generating a sensor signal indicative of parameters sensed during a shave.
2. The razor system of Claim 1 wherein the sensor includes at least one of an electromagnetic induction sensor, an ultrasonic sensor, a hall effect sensor, a capacitive sensor, a charge transfer sensor, an electric field sensor, a photoelectric sensor, a magnetostrictive sensor and an angular rate sensor.
3. The razor system of Claim 1 wherein at least a portion of the cartridge is movable to follow the contours of a hirsute surface during a shaving operation.
4. The razor system of Claim 1 comprising a receptor electrically connected to the sensor, wherein the receptor includes a signal conditioning circuit for processing the sensor signal to generate a corresponding feedback signal.
5. The razor system of Claim 4 comprising an actuator electrically connected to the signal conditioning circuit and operatively connected to the at least one razor blade, wherein the actuator moves the at least one razor blade in response to the feedback signal.
6. The razor system of Claim 5 wherein the actuator is operatively connected to the razor cartridge and moves the razor cartridge in response to the feedback signal.
7. The razor system of Claim 5 wherein the handle has a flexible section and the actuator is operatively connected to the flexible section of the handle for movement thereof in response to the feedback signal.

8. The razor system of Claim 4 comprising an indicator electrically connected to the signal conditioning circuit, wherein the indicator is responsive to the feedback signal.
9. The razor system of Claim 1 wherein the sensor is disposed in the razor cartridge.
10. The razor system of Claim 1 wherein the sensor is disposed in the handle.
11. The razor system of Claim 1 wherein the sensor is an electromagnetic induction sensor, which senses distance between a conductive target and the sensor.
12. The razor system of Claim 11 wherein the sensor is disposed in the razor handle behind the razor cartridge and the target is the at least one blade.
13. The razor system of Claim 1 wherein the sensor is an ultrasonic sensor disposed in the handle and resonates at ultrasonic frequencies to monitor movement of one or more skin engaging elements.
14. The razor system of Claim 1 wherein the sensor is a hall effect sensor including:
 - a magnet generating a magnetic field; and
 - a current carrying conductor disposed in the magnetic field perpendicular to the direction of the current flow.
15. The razor system of Claim 14 wherein the magnet is disposed in the razor handle and the current carrying conductor is disposed in the razor cartridge.
16. The razor system of Claim 1 wherein the sensor is a capacitive sensor having a sensor plate and a target plate wherein the sensor monitors change in capacitance as a function of distance between the sensor plate and the target plate as a function of distance therebetween.

17. The razor system of Claim 16 wherein the at least one blade comprises:
a first blade having the sensor plate disposed thereon; and
a second substantially parallel blade having the target plate disposed thereon.
18. The razor system of Claim 1 wherein the sensor is a charge transfer sensor used to determine moisture level and content.
19. The razor system of Claim 1 wherein the sensor is an electric field sensor including a pair of electrodes proximate each other, the electrodes generating an electric field therebetween such that changes in the electric field are indicative of dynamic displacement information.
20. The razor system of Claim 19 wherein the distance between the electrodes vary as the at least one blade is displaced.
21. The razor system of Claim 1 wherein the sensor is a photoelectric sensor having a light source and a light sensitive detector.
22. The razor system of Claim 21 wherein the light source includes a laser light and the sensor is utilized to measure distances of deflection of the at least one blade.
23. The razor system of Claim 1 wherein the sensor is a magnetostrictive sensor wherein current pulses are transmitted and acoustic waves are sensed to monitor displacement of the at least one blade.
24. The razor system of Claim 7 wherein the sensor is an angular rate sensor utilized to measure yaw, pitch and roll of the at least one blade as the flexible section is moved.

25. A razor cartridge for attaching to a razor handle of a razor system, the razor cartridge comprising:

at least one blade; and

a sensor disposed in the razor cartridge for generating a sensor signal indicative of parameters sensed during a shave, the sensor including at least one of an electromagnetic induction sensor, an ultrasonic sensor, a hall effect sensor, a capacitive sensor, a charge transfer sensor, an electric field sensor, a photoelectric sensor, a magnetostrictive sensor and an angular rate sensor.

26. The razor cartridge of Claim 25 wherein the sensor is an electromagnetic induction sensor, which senses distance between a conductive target and the sensor.

27. The razor cartridge of Claim 25 wherein the sensor is an ultrasonic sensor and resonates at ultrasonic frequencies to monitor movement of one or more skin engaging elements.

28. The razor cartridge of Claim 25 wherein the sensor is a hall effect sensor including:

a magnet generating a magnetic field; and

a current carrying conductor disposed in the magnetic field perpendicular to the direction of the current flow.

29. The razor cartridge of Claim 25 wherein the sensor is a capacitive sensor having a sensor plate and a target plate wherein the sensor monitors change in capacitance as a function of distance between the sensor plate and the target plate as a function of distance therebetween.

30. The razor cartridge of Claim 29 wherein the at least one blade comprises:

a first blade having the sensor plate disposed thereon; and

a second substantially parallel blade having the target plate disposed thereon.

31. The razor cartridge of Claim 25 wherein the sensor is a charge transfer sensor used to determine moisture level and content.

32. The razor cartridge of Claim 25 wherein the sensor is an electric field sensor including a pair of electrodes proximate each other, the electrodes generating an electric field therebetween such that changes in the electric field are indicative of dynamic displacement information.

33. The razor cartridge of Claim 32 wherein the distance between the electrodes vary as the at least one blade is displaced.

34. The razor cartridge of Claim 25 wherein the sensor is a photoelectric sensor having a light source and a light sensitive detector.

35. The razor cartridge of Claim 25 wherein the sensor is a magnetostrictive sensor wherein current pulses are transmitted and acoustic waves are sensed to monitor displacement of the at least one blade.

36. The razor cartridge of Claim 25 wherein the sensor is an angular rate sensor utilized to measure yaw, pitch and roll of the at least one blade.

37. A razor handle having a receptor for receiving a sensor signal indicative of parameters sensed during a shave generated from at least one of an electromagnetic induction sensor, an ultrasonic sensor, a hall effect sensor, a capacitive sensor, a charge transfer sensor, an electric field sensor, a photoelectric sensor, a magnetostrictive sensor and an angular rate sensor, the razor handle comprising a signal conditioning circuit for processing the sensor signal to generate a feedback signal.

38. The razor handle of Claim 37 comprising an actuator electrically connected to the signal conditioning circuit, wherein the actuator moves in response to the feedback signal.

39. The razor handle of Claim 38 wherein the actuator is operatively connected to a flexible section of the handle and moves the flexible section in response to the feedback signal.

40. The razor handle of Claim 37 comprising an indicator electrically connected to the signal conditioning circuit, wherein the indicator provides an indication in response to the feedback signal.

41. The razor handle of Claim 37 wherein the sensor is disposed in the handle.